High Percentage of False-Positive Results for Influenza B Obtained With a Rapid Influenza Point-of-Care Test

To the Editor—Our institution began using the Sofia fluorescent immunoassay analyzer (Quidel Corp., San Diego, CA) [1] as our point-of-care test (POCT) for influenza beginning in 2013. We calculated the percent positivity for influenza B as follows:

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\text{number of POCTs positive for influenza } B \times 100 \\
\frac{\text{total number of POCTs positive for influenza } A \text{ or } B}
\]

The monthly mean percent positivities for B were 27%, 26%, 29%, and 49% for September, October, November, and December 2013, respectively. We observed 55% positivity for B in January 2014 and 58% for the first 2 weeks of February. Because these percentages were much greater than the national average of <4% [2], we compared the results obtained with the POCT to those obtained with the eSensor respiratory viral panel (RVP; GenMarkDx, Carlsbad, CA). This test distinguishes influenza A subtypes, including the 2009 pandemic H1N1 (pH1N1), from non-pandemic H1N1 and H3N2, as well as influenza B and several other common respiratory viruses.

When the POCT yielded a positive result for influenza A or B, a second specimen was immediately obtained and analyzed using the RVP. We compared 43 POCT A/RVP paired specimens and 66 POCT B/RVP paired specimens (Figure 1). For influenza A, 93% of those samples were identified as pH1N1 by our RVP. Seven percent were negative for any
respiratory virus, which is consistent with the expected performance of the RVP [3]. In contrast, for influenza B, only 1 specimen was positive for influenza B by RVP and no respiratory virus was detected in 47% of the specimens. Thirty-eight percent of the specimens were positive for a noninfluenza virus, and pH1N1 was detected in 14% of the specimens.

Quality control testing did not reveal any issues with the performance of the POCT lot numbers that were used. The staff performing the POCT was retrained by representatives from the manufacturer as well as our internal point-of-care staff. Despite 3 training sessions that involved approximately 50% of the staff performing the POCT, we observed no decrease in the influenza B percent positivity. Because of concern that approximately 85% of patients with a positive POCT for influenza B were not pH1N1 by RVP and 85% were negative for influenza (38% nonflu virus plus 47% negative).

Conflicts that the editors consider relevant to the content of the manuscript have been disclosed.

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Figure 1. Comparison of influenza test results obtained using the point-of-care test (POCT) vs respiratory viral panel (RVP). The results of RVP testing are indicated as H1N1 (influenza A), noninfluenza respiratory virus, influenza B, or negative for any respiratory virus. A, Ninety-three percent of 43 POCT positive for influenza A were pH1N1 by RVP. B, Of 66 POCTs positive for influenza B, only 1 specimen was positive for influenza B by RVP and 85% were negative for influenza (38% nonflu virus plus 47% negative).